

**PCT**WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>7</sup> : <b>G06F</b>	<b>A2</b>	(11) International Publication Number: <b>WO 00/54122</b> (43) International Publication Date: 14 September 2000 (14.09.00)
<p>(21) International Application Number: PCT/US00/03526</p> <p>(22) International Filing Date: 10 February 2000 (10.02.00)</p> <p>(30) Priority Data: 09/265,147 9 March 1999 (09.03.99) US</p> <p>(71) Applicant: ANCESTRY.COM, INC. [US/US]; 266 West Center Street, Orem, UT 84057 (US).</p> <p>(72) Inventors: TAGGART, Daniel, D.; 10457 N. 6300 W., Highland, UT 84003 (US). ALLEN, Paul, B.; 1791 N. 500 E., Provo, UT 94604 (US). REDD, Brandt, C.; 2125 N. 1450 E., Provo, UT 94604 (US).</p> <p>(74) Agents: GIBBY, Darin, J. et al.; Townsend and Townsend and Crew LLP, 8th floor, Two Embarcadero Center, San Francisco, CA 94111 (US).</p>		<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p><b>Published</b> <i>Without international search report and to be republished upon receipt of that report.</i></p>
<p>(54) Title: SYSTEM AND METHODS FOR SHARED ELECTRONIC PURCHASING</p> <p>(57) Abstract</p> <p>Systems and methods are provided for facilitating a purchase transaction. According to one method, multiple proposed contributions towards a purchase price of an item using multiple payment instruments are collected at a merchant server computer. The merchant server computer sends requests for authorization to charge the payment instruments. The merchant server computer collects the returned responses to the authorization requests. The merchant server computer then sends commands to charge all of the payment instruments only if the responses indicate an authorization to charge all of the payment instruments.</p> <p><b>BEST AVAILABLE COPY</b></p>		

*FOR THE PURPOSES OF INFORMATION ONLY*

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakhstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LJ	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

## SYSTEMS AND METHODS FOR SHARED ELECTRONIC PURCHASING

5

### BACKGROUND OF THE INVENTION

The invention relates generally to the field of sales, and in particular to sales at the retail level. More specifically, the invention relates to systems and methods for facilitating the purchase of retail items that are purchased from contributions made from one or more individuals using one or more forms of payment.

Retail sales are an important part of the economy. For example, the value of total retail sales in 1998 is expected to exceed \$100 billion. Gift giving accounts for a large percentage of retail sales, particularly of new and high-end goods. One emerging way to purchase retail goods is using the Internet. Indeed, Newsweek magazine recently reported that an estimated \$2.3 billion will be spent by Americans on Web gifts during 1998. This amount is double that spent during 1997.

One popular way to give a gift is to solicit contributions from several people so that resources can be pooled to purchase a more expensive gift. Typically this is done by all the contributors giving money to one designated buyer who purchases the item and delivers it to the recipient. This practice is common within families where the majority of gift giving typically occurs. For example, if a sibling is to be married, the other siblings may wish to join together to purchase a wedding gift, such as a television. Usually, one of the siblings then has the responsibility of contacting the other siblings, requesting a donation amount, following through to make sure that sufficient contributions are received, and then purchasing the television, preferably all before the wedding day. As this example illustrates, gift giving by seeking contributions can be fraught with problems. For example, contacting each of the proposed contributors can

be difficult, especially if the contributors are separated by long distances. To contact each of the contributors, a long distance telephone call or a letter may need to be written. This can be both time consuming and expensive. Further, collecting money from each of the proposed contributors can also be difficult. For example, the designated buyer will typically be unable to use the credit cards of the proposed contributors because the designated buyer is typically not included on the account. Hence, receiving payment authorization for the credit cards will be difficult if not impossible. Use of cash is typically discouraged because of the lack of security in transferring the cash through the mail system. Still further, once all of the contributions have been collected, the primary buyer then has the responsibility of selecting the desired item, purchasing the item and then providing it in suitable form to the recipient.

In summary, existing processes for gift giving when multiple contributions are sought are inefficient. More specifically, existing processes are both time consuming and have high transaction costs. Further, existing processes are inconvenient, particularly for the designated buyer who has the responsibility of coordinating gift selection, contribution amount, contribution collections and delivery.

Hence, it would be desirable to provide systems and methods to facilitate the purchase of items when soliciting contributions from one or more contributors using one or more forms of payment. The systems and methods should be both efficient and easy to use. Preferably, the systems and methods will utilize computers which are coupled to a network, such as the Internet, to reduce the transaction costs involved in the purchasing process.

#### SUMMARY OF THE INVENTION

The invention provides exemplary systems and methods for facilitating purchase transactions. More specifically, the methods and systems of the invention are employed to facilitate the sale of items where one or more contributions are made toward the purchase price of the item. The systems

and methods of the invention are particularly useful when the proposed contributions are made using one or more forms of payment.

5 According to the invention, techniques are provided for synchronizing multiple charges (from multiple contributors) to multiple payment instruments when purchasing an item. According to one exemplary method, multiple proposed contributions toward the purchase price of an item using multiple payment instruments are collected. Preferably, the  
10 contributions are collected at a merchant server computer. The merchant server computer then sends requests for authorizations to charge the payment instruments. Typically, these requests will be sent to banks or other credit organizations who have authority to charge the payment  
15 instruments. The merchant server computer then waits for returned responses to the authorization requests. If the responses indicate an authorization to charge all of the payment instruments, the merchant server computer sends out commands to charge all of the payment instruments. However,  
20 if any one of the responses indicates a failed authorization, then none of the payment instruments are charged. In this way, charging of the payment instruments is synchronized so that none of the payment instruments will be charged unless the authorized charges are sufficient to cover the purchase  
25 price of the item.

The merchant server computer is preferably coupled to a network to which various other computers are also coupled. In one particular aspect, the item that is desired to be purchased is selected from a primary buyer computer  
30 which is coupled to the network. The selection of the item is then sent over the network to the merchant server computer. The selection of the item is then sent to one or more co-payer computers over the network along with a request to contribute toward the purchase price. Preferably, the primary buyer  
35 identifies the co-payers who may wish to contribute toward the purchase price. Conveniently, the primary buyer may also compose a solicitation letter at the primary buyer computer which contains a request for a contribution towards the

purchase price. This information is then sent over the network to the identified co-payer computers. After the co-payers have read the solicitation letter, responses to the letter are sent over the network to the merchant server computer, with the responses preferably indicating a proposed contribution towards the purchase price.

In another particular aspect, a notification is sent over the network to the primary buyer computer when the contributions from the co-payers meet or exceed the purchase price. The primary buyer is then able to confirm the selection from the primary buyer computer.

In still another aspect, once the primary buyer computer has confirmed that the item should be purchased, the merchant server computer sends a request to banks or credit organizations asking for authorizations to charge the payment instruments as previously described. The merchant server computer then collects the returned responses and sends commands to charge all of the payment instruments only if the responses indicate an authorization to charge all of the payment instruments. Once all of the payment instruments have been charged, the item has been purchased and is sent to an indicated recipient.

The invention further provides an exemplary system for facilitating a purchase transaction. The system comprises at least one network server computer which may be coupled to a network to allow the network server computer to communicate with a primary buyer computer and one or more co-payer computers. The system includes code to present a list of inventory items at the primary buyer computer. In this way, a primary buyer may utilize the primary buyer computer to select one of the items to purchase at a given purchase price. The system further includes code to send a message to the co-payer computer requesting whether contributions are to be made toward the purchase price of the item using a given payment instrument. Code is also included to determine when one or more proposed contributions toward the purchase price meets or exceeds the purchase price. Still further, the system includes code to send a command to charge the payment

instruments to pay the purchase price. In this way, once the network server computer receives proposed contributions which meet or exceed the purchase price, commands are sent to charge the payment instruments to pay the purchase price.

5 In one particularly preferable aspect, the network server computer is also configured to be coupled to at least one credit organization which has authority to charge the payment instruments. The system preferably also includes code to contact the credit organization to authorize the charging of the payment instruments. The system preferably also includes code to send commands to the credit organizations to charge the payment instruments only after receiving authorizations from the credit organizations to charge all of the payment instruments. In this way, the payment instruments will not be charged unless all of the charges are preauthorized.

10 In another particular aspect, the system includes code to send over the network a notification to the primary buyer computer of any proposed contributions. A notification is preferably also sent over the network to the primary buyer computer when the proposed contributions meet or exceed the purchase price. Still further, this system preferably includes code to send a confirmation of the selection from the primary buyer computer to the network server computer to allow the primary buyer to confirm that the item is still desired to be purchased. Optionally, the primary buyer may also wish to contribute towards the purchase price. This may be done by sending a proposed contribution from the primary buyer computer to the network server computer.

#### BRIEF DESCRIPTION OF THE DRAWINGS

20 Fig. 1 is a schematic diagram of an exemplary system to facilitate a purchase transaction according to the invention.

30 Fig. 2 illustrates a flowchart outlining the steps of an exemplary method for facilitating a purchase transaction using the system of Fig. 1 according to the invention.

Fig. 3 illustrates a flowchart outlining an exemplary refunding processing according to the invention.

#### DETAILED DESCRIPTION OF THE SPECIFIC EMBODIMENTS

5 In a broad sense, the invention provides for the synchronization of multiple charges to multiple payment instruments. In this way, none of the payment instruments will be charged until all of the proposed charges are authorized. Once all the authorizations are received, the invention  
10 provides for the charging of each of the payment instruments.

The techniques of the invention will find their greatest use in facilitating the purchase of items where contributions are received from multiple individuals using multiple forms of payment instruments. Typically, the items  
15 to be purchased will be those sold at the retail level, including clothing, footwear, consumer durable goods, jewelry, toys, food, parts, and the like. However, it will be appreciated that the invention is not limited to the particular type of item that is to be purchased.

20 As just described, one important feature of the invention is the ability to synchronize multiple charges to multiple payment instruments. The types of payment instruments that may be used with the invention include credit cards, debit cards, negotiable instruments such as checks,  
25 prepaid accounts, smart cards, utility bills, credit accounts, billing services, electronic funds transfer, bank accounts, brokerage accounts, and money market funds. and the like. Of these, the invention will find its greatest use when the form of payment instrument is a credit card.

30 The standard practice among credit card companies is to utilize a two-step process in handling payments. The first step is payment authorization. When a payment is authorized, the designated amount of funds is reserved on the card but no actual transfer of money occurs. The second step is payment  
35 settlement. In this step, the card is actually charged and the money is transferred to the payee's account. The present invention takes advantage of this two-step process to help insure that none of the cards are charged until an



authorization is received for each of the cards. If any of the cards receives a failed authorization, then none of the cards are charged. In this way, the synchronization of charges to multiple cards is provided.

5           The techniques of the invention preferably utilize modern computer technology. More specifically, the methods of the invention are preferably practiced utilizing various computers which are able to communicate with each other over a network. For example, one configuration of a system 10 that  
10           may be employed to implement the techniques of the invention is illustrated in Fig. 1. System 10 preferably employs the use of a primary buyer computer 12 and one or more co-payer computers 14. Computers 12 and 14 may be of any type of computer that will support a Web browser, including any one of  
15           a variety of commercially available personal computers, such as those employing a Pentium-type processor. Merely by way of example, such computers can include desktop computers, workstations, laptop computers, Web TV devices, hand-held devices, and the like. As such, the invention is not limited  
20           to the particular type of computer needed to implement the methods of the invention.

          Computers 12 and 14 may be constructed to be essentially identical to each other and preferably each comprises a processor chassis 16 within which is disposed a  
25           central processing unit (CPU) and supporting integrated circuitry. Coupled to processor chassis 16 is a keyboard (not shown) and a monitor 18. Input into computers 12 and 14 may be accomplished by use of the keyboard and/or a mouse (not shown) or other pointing device that controls a cursor that is  
30           in turn used to make selections in programs executed on computers 12 and 14. Optionally, computers 12 and 14 may also include a floppy drive 20, a compact disk drive 22, and an internal hard drive as is known in the art. Computers 12 and 14 preferably also include an internal/external modem as is  
35           known in the art.

          To communicate with other computers, the computers of the invention are preferably coupled to a network, such as the Internet 24. However, it will be appreciated that other

types of networks may be employed to operate the invention, including local area networks (LAN), wide area networks (WAN), a corporate intranet/extranet, secured private networks, and the like. Indeed, Internet 24 is depicted as an amorphous shape to suggest that the details of connection with the various computers are continually evolving.

System 10 further includes a merchant server computer 26 which is able to communicate with computers 12 and 14 via Internet 24. Merchant server computer 28 is employed to transfer various information between computer 12 and computers 14 as well as between a credit organization computer 28. The connection between merchant service computer 26 and credit organization computer 28 is preferably provided over a secured network such as a value added network (VAN). Alternatively, computers 26 and 28 may be coupled together using dial-up link open modems and the telephone network or an encrypted connection over the Internet.

Credit organization computer 28 includes a database of various individuals and their credit account status. In this way, computer 28 is able to issue authorizations to charge various payment instruments. Further, computer 28 is able to initiate commands to transfer money from an account to complete a purchase as is known in the art. Although shown with only one credit organization computer 28, it will be appreciated that merchant server computer 28 may be connected to multiple credit organization computers depending on which credit organizations need to be contacted in order to charge a payment instrument. Credit organization computers 28 are typically operated by a bank which has associations with various credit card companies, such as VISA and MasterCard. Alternatively, credit organization computer 28 may be operated directly by a credit card company, such as American Express.

Merchant server computer 26 is preferably an Intel Pentium or Digital alpha-based microprocessor computer, running Microsoft Windows NT. All of the specialized software required to manage the methods of the invention run on merchant server computer 26 as described hereinafter. Software tools that may be employed to implement the methods

of the invention on merchant server computer 28 include Microsoft SiteServer Commerce Edition as the base platform. Various custom components may be built using Microsoft Active Server Pages and Microsoft Visual C++. Links to the various credit payment computers 28 may be supported by software from Veriphone or CyberCash. Further, credit organization computers 28 typically comprise mainframe computers as is known in the art.

The specific hardware and software described in connection with system 10 is merely illustrative of hardware and software that may be employed to implement the methods of the invention. Hence, it will be appreciated that the invention is not limited to the specific types of hardware and software employed to implement the invention.

Referring now to Fig. 2, one exemplary method for facilitating a purchase transaction where one or more contributions are made using one or more payment instruments will be described. For convenience of discussion, reference will be made to a primary buyer, co-payers, and a recipient. The primary buyer is the individual who initiates the purchase, solicits other contributors, and provides final purchase authorization. The co-payers are additional people who contribute toward the purchase price. The recipient is the person who receives the item or items being purchased. It will be appreciated that the recipient may also be the primary buyer or a co-payer. For example, a child may purchase an item for himself and solicit contributions, or the full amounts, from a parent. Accordingly, the primary buyer does not necessarily have to contribute anything to the purchase.

In the method of Fig. 2, three subprocesses are employed. These include steps 30-46, 48-68, and 70-92. In describing the method of Fig. 2, reference will also be made to Fig. 1. The first subprocess is the initial order subprocess. As illustrated in step 30, the process begins when the primary buyer chooses an item to purchase. As shown in step 32, the primary buyer browses and/or searches an online catalog and selects the item to purchase. The online catalog preferably resides on merchant server computer 26 and

is viewed on monitor 18 of primary buyer computer 12 as shown in Fig. 1. In this way, the primary buyer is able to utilize primary buyer computer 12 to select the desired item from an online catalog. Once the item has been selected, it is added  
5 to the primary buyer's order and stored in merchant server computer 26.

As shown in step 34, the primary buyer is given the option of choosing more items that are to be added to the order. If so, the primary buyer simply returns to step 32 and  
10 selects another item. Once all the items to be purchased have been selected, the method proceeds to step 36 where the primary buyer selects one or more co-payers that the primary buyer wishes to contribute to the purchase price of the item or items. The selection of the co-payers may be accomplished  
15 by typing into primary buyer computer 12 the name of a co-payer and an e-mail address, or other identifier that will be recognized by merchant server computer 26. As shown in step 38, the primary buyer is given the option of selecting other co-payers who may wish to contribute toward the purchase  
20 price.

Once all the co-payers are selected, the method proceeds to step 40 where the primary buyer is given the option of entering his or her own personal contribution toward the purchase price. The primary buyer may choose not to  
25 contribute by simply entering a zero amount. If the primary buyer does wish to contribute, the primary buyer enters his or her credit card information into primary buyer computer 12 where it is transferred to merchant server computer 26. The primary buyer is further given the option of composing a  
30 solicitation letter to the co-payers explaining who is to receive the item and why they are being asked to contribute as illustrated in step 42. As shown in step 44, merchant server computer 26 forwards the solicitation letter along with the order itemization to the co-payer computers which correspond  
35 to the co-payers identified by the primary buyer. For example, the primary buyer may enter the e-mail address for each of the proposed contributors. This information is processed by merchant server computer 26 who then sends the

solicitation letter and order itemization to the appropriate co-payer computers. Once this is accomplished, the initial order subprocess is complete as illustrated in step 46.

Steps 48-60 illustrate a co-payer contribution subprocess. This subprocess starts when one of the co-payers reads the solicitation letter as shown in step 50. The solicitation letter preferably includes a hypertext link and/or instructions on how to contribute a payment toward the purchase price of the item. The co-payer simply selects its link or follows the instructions that are provided. As shown in step 52, the co-payer is asked whether they wish to contribute toward the purchase price of the item. If the co-payer wishes to contribute, the process proceeds to step 56. Otherwise, the process proceeds to step 54. If no contribution is to be supplied, the co-payer simply enters a zero amount into co-payer computer 14. If the co-payer does wish to contribute, the amount of the contribution and the credit card information are entered into co-payer computer 14. The co-payer is also given the option to enter comments regarding the contribution, as shown in step 58. If so, the co-payer enters the comment into co-payer computer 14 as illustrated in step 60. Information entered into co-payer computer 14 is transferred to merchant server computer 26 where it is stored. Further, merchant server computer 26 e-mails a notice of the contribution (or lack thereof) and the comments (if any) to primary buyer computer 12 and all other co-payer computers 14 as shown in step 62.

Merchant server computer 26 totals all of the existing contributions and determines whether the sum is more than the order total, preferably including tax, shipping and handling, as shown in step 64. If so, the method proceeds to step 66. Otherwise, the method proceeds to step 68. If the contributions are sufficient, a notice is sent to primary buyer computer 12 indicating that the total contribution is adequate. The co-payer contribution process is then complete.

Steps 70-92 illustrate the order of confirmation subprocess. In this subprocess, the buyer reads the notice that sufficient contributions have been authorized, as shown

in step 72. Optionally, primary buyer computer 12 may be sent information about who is contributing. At this point, the primary buyer has the option as to whether to proceed with the existing contributions or wait for additional contributions (which may reduce the actual amounts that the existing contributors pay) as shown in step 74. As shown in step 76, if the primary buyer declines to accept the order, the primary buyer may simply wait for additional contributions.

Preferably, a notice will be sent to primary buyer computer 12 each time additional contributions are proposed. In this way, the primary buyer may return at any time to confirm the order.

Once the primary buyer confirms the order, merchant server computer 26 sends an authorization request to each relevant credit management computer 28 to see if the banks or credit organizations will authorize the charges as shown in step 78. Merchant server computer 26 receives the responses from credit management computers 28 and analyzes the responses to determine if any of the authorizations have failed as shown in step 80. If one or more of the authorizations have failed, all successful authorizations are preferably cancelled and the contributions that failed are reset as shown in step 82. A notification is also sent to the primary buyer computer 12 as shown in step 84. The failed co-payer is preferably also notified by sending a message from merchant server computer 26 to co-payer computer 14. At this point, the process proceeds to step 86 where the process will restart once the primary buyer receives notice that sufficient contributions again exist.

As shown in step 88, if all authorizations are successful, all of the cards are charged. Once the payment for the item has been accepted, the order is filled, as shown in step 90. The order confirmation sub-process is then complete as shown in step 92. Preferably, once the item has been purchased, it will be delivered via mail or other delivery system to the recipient.

It will be appreciated that the method of Fig. 2 is one exemplary method of purchasing an item. However, various alternatives to this method may be used to facilitate

transaction processes. For example, instead of waiting until sufficient contributions have been proposed before authorizing the credit cards, the credit card of a co-payer may be authorized immediately after the contribution information is entered into the co-payer computer. This is advantageous in that, if a mistake was made while entering the number, such a mistake may be detected and immediately corrected. Further, only the co-payer, i.e., the card holder, will know when the card has failed authorization. In this way, the primary buyer and the other co-payers will not be aware of any credit problems of the other co-payer.

Authorizations for credit cards typically only hold for about 4-7 days. However, the authorizations can be refreshed by merchant server computer 26 to prevent expiration. More specifically, if it takes longer than the amount of time for the other co-payers to make their contribution, merchant server computer 28 will send a request to refresh the authorizations. Because a co-payer will typically not wish to have funds perpetually reserved on their credit card, merchant server computer 28 is preferably configured with an expiration date at which point it will cease sending requests to refresh the authorization.

In one aspect, the ordered item or items may be immediately reserved in inventory when the initial order is placed at primary buyer computer 12. Typically, the warehouse having the items has access to the database in merchant server computer 26 so that it will know when an order has been placed. Hence, once a notification has been received of an order, the warehouse may immediately reserve the item. In this way, there is no need to wait for all co-payers to send in their proposed contributions before securing the order. Merchant server computer 26 is preferably configured so that the reservation will be released after a predetermined amount of time has passed so that the item will not remain perpetually reserved. In the event that the item is not in stock, the warehouse may immediately backorder to replenish the inventory without waiting for the process to complete.

In some cases, the sum of the proposed contributions may exceed the total cost of the item or items. In such a case, merchant server computer 26 may be configured to proportionally charge each co-payer the amount the co-payer contributed relative to the sum of all the contributions. Typically, credit card companies are able to accept settlements that are less than the authorized amount.

In one alternative, the primary buyer is given the option at primary buyer computer 12 to include proposed contribution amounts for each of the selected co-payers. The primary buyer may select to have the proposed contribution amounts generally known to each co-payer or to be private to the individual co-payer.

Another feature of the invention is the ability to accommodate refunds or returns by reversing the charges on the payment instruments used in the original purchase. One exemplary method for accommodating refunds is illustrated in Fig. 3. At step 100 the refunding process begins. This may be a request for a refund and/or the recipient may return the purchased goods as shown in step 102. The request is evaluated as shown in step 104. If the request is not approved, the process ends at step 106. If approved, the process proceeds to step 108 where the multi-instrument payment is split into a set of independent refunds (since multiple payment instruments were used in the original transaction). In this way, each payment instrument that was used in the original transaction may have its charges reversed. This is shown in step 110. If any of the reversals are unsuccessful, the processes is repeated for the unsuccessful attempts. In some cases, it may be impracticable or impossible to issue a reversal, e.g. the payor has closed his or her credit-card account. In such a case, a refund check may be issued and mailed to the payor. After all reversals have been accomplished, the process ends at step 112.

The process of Fig. 3 takes advantage of the unlikelihood that the reversals will fail due to a lack of credit on the part of the vendor. As such, it is not



necessary to synchronize the refunds as is the case with the original purchase. Instead, it is only necessary to ensure that all refunds eventually occur.

5 In another option, the contribution amounts may be kept confidential, so that only the contributors know how much was authorized. Further, the names of the contributors and/or the primary buyer might be kept confidential.

10 In the case of charitable situations, system 10 may be configured to offer an option for an open solicitation for contributions with the names and amounts of the contributions being kept confidential. In this manner, anyone may choose to contribute without being named by the primary buyer.

15 In another alternative, the item to be purchased may be a gift certificate or cash. The gift of cash is particularly useful when utilizing the confidential contribution option as described above. In this way, a system is provided to easily and conveniently collect contributions for a charitable cause.

20 When the item to be purchased is a gift certificate or cash, the purchase may be settled on a particular date regardless of the total amount of the contributions. The gift certificate or cash amount would simply be the total of contributions on the ending date. Alternatively, the transaction may be kept open with regular, 25 periodic statements as a way to continuously collect funds for a particular purpose.

30 When the item being purchased is cash, the cash amount may be less than the total of all the contributions. This may happen, for example, when a credit card company charges a small percentage of the transaction.

In another alternative, the total amount required or contributed may be hidden from both the co-payers and the primary buyer. This may be particularly useful when there is a confidential set of co-payers.

35 In still another alternative, the primary buyer may shop for items from primary buyer computer 12 before identifying that any co-payers will be used. In this manner, the primary buyer is able to assemble an order and then select

the option of asking co-payers to contribute at the time of payment. Preferably, each time an item is selected it is added to a shopping cart as is known in the art. See, for example, U.S. Patent No. 5,715, 314, the complete disclosure of which is herein incorporated by reference, and web sites, such as www.gap.com and www.nordstrom.com.

The hosting organization of merchant server computer 26, e.g., the organization responsible for providing and shipping the items, may offer members a credit account with an established billing/payment system. In this way, the primary buyer or co-payer who is a member of the organization hosting the site need not enter any payment instrument information. Rather, the members may be directly billed and the process may proceed with only the entry of the contribution amount.

In another option, merchant server computer 26 may store the credit card information in its database so that, on subsequent visits, the user may simply choose to use the card instead of re-entering the credit card information.

As previously described, the methods may be employed to order one or more items. In the case where only a single item is to be purchased, merchant server computer 26 may be configured to display an "instant purchase" button on monitor 18 of primary buyer computer 12. In this manner, the shopping cart process is bypassed and allows the primary buyer to immediately begin selecting the co-payers.

As previously described, a variety of payment instruments may be employed with the methods of the invention. Hence, the invention is not limited to the use of credit card payments. Indeed, other payment mechanisms may be used where it is possible to separate the authorization step from the settlement step. As one example, a check may be used for payment. In such a case, merchant server computer 28 is able to communicate with a bank to determine if sufficient funds are in the payor's account before processing the check. However, due to the nature of checks, the check may only be used for the stated amount and not a reduced amount as with a credit card. In the event that the co-payers contribute in excess of the purchase price, refund checks may be issued to

the co-payers. Alternatively, a gift certificate for the excess amount may be enclosed with the purchased item.

The invention may also be utilized to allow contributors to purchase gift certificates. In such a method, each of the co-payers purchases a gift certificate using their co-payer computer. This information is then transferred to the primary buyer via primary buyer computer 12. Such gift certificates are "virtual" certificates that take the form of credit in the primary buyer's account as saved on merchant server computer 26 rather than physical certificates. Once the primary buyer has received sufficient certificates (credit), the primary buyer proceeds to make the purchase using the certificates for payment.

Another alternative method is a purchase authorization method. According to this method, the co-payers authorize the primary buyer to use their payment instrument to purchase a particular item (or set of items) up to a certain maximum contribution. Once the primary buyer receives sufficient contributions, the primary buyer proceeds with the purchase.

In still another option, contributions may be collected for items other than those listed by the merchant server computer. With this option, the contributions are collected and saved in a "purchasing account" which may be drawn on by the buyer. In this way, essentially any type of item may be purchased, regardless of whether it is offered by the vendor operating the merchant server computer.

For example, the primary buyer simply need to transmit to the merchant server computer the name of an item that is to be purchased along with an appropriate description and cost. Requests for contributions are solicited in a manner similar to that previously described. Once sufficient funds have been collected as previously described, the funds are stored in a "purchasing account". The primary buyer has access to the funds in this account and can withdraw the funds to purchase the item. For example, a credit card, debit card, negotiable instrument, or other transaction instrument may be issued to the primary buyer who may use the transaction

instrument to apply the funds in the purchasing account towards the transaction.

The invention has now been described in detail for purposes of clarity of understanding. However, it will be appreciated that certain changes and modifications may be made. Therefore, the scope and content of the invention should be determined in light of the claims set forth below as well to the full range of equivalents to which those claims are entitled.

WHAT IS CLAIMED IS:

1           1. A method for facilitating a purchase  
2 transaction, comprising:  
3           selecting from a primary buyer computer an item that  
4 is desired to be purchased by payment of a purchase price;  
5           collecting at least one proposed contribution toward  
6 the purchase price from at least one co-payer computer; and  
7           accepting an amount of the proposed contribution  
8 sufficient to meet the purchase price.

1           2. A method as in claim 1, further comprising  
2 entering a contribution toward the purchase price from the  
3 primary buyer computer.

1           3. A method as in claim 1, further comprising  
2 identifying at the primary buyer computer at least one co-  
3 payer from which proposed contributions are to be collected.

1           4. A method as in claim 3, further comprising  
2 composing a solicitation letter at the primary buyer computer  
3 which contains a request for a contribution toward the  
4 purchase price and sending the letter to the co-payer  
5 computer.

1           5. A method as in claim 1, further comprising  
2 selecting the item from an inventory of items displayed at the  
3 primary buyer computer.

1           6. A method as in claim 1, further comprising  
2 sending a notification to the primary buyer computer of any  
3 proposed contributions.

1           7. A method as in claim 1, further comprising  
2 sending a notification to the primary buyer computer when the  
3 contribution meets or exceeds the purchase price.

1           8. A method as in claim 7, further comprising  
2 confirming the selection from the primary buyer computer after  
3 receiving the notification.

1           9. A method as in claim 8, wherein the proposed  
2 contribution is in the form of a credit purchase using a  
3 payment instrument, and further comprising authorizing  
4 charging of the payment instrument prior to accepting the  
5 amount.

1           10. A method as in claim 9, further comprising  
2 collecting multiple proposed contributions using multiple  
3 payment instruments, and wherein the amount is accepted by  
4 charging the payment instruments only after authorizations to  
5 charge all of the payment instruments have been received.

1           11. A method as in claim 1, further comprising  
2 delivering the ordered item to a recipient.

1           12. A method for facilitating a purchase  
2 transaction, comprising:  
3           selecting from a primary buyer computer which is  
4 coupled to a network an item that is desired to be purchased  
5 by payment of a purchase price;  
6           sending the selection of the item to one or more co-  
7 payer computers over the network along with a request to  
8 contribute toward the purchase price;  
9           collecting proposed contributions toward the  
10 purchase price from the co-payer computers; and  
11           accepting an amount of the proposed contributions  
12 sufficient to meet the purchase price.

1           13. A method as in claim 12, further comprising  
2 collecting a contribution toward the purchase price from the  
3 primary buyer computer.

1           14. A method as in claim 12, further comprising  
2 identifying at the primary buyer computer co-payers who may  
3 wish to contribute to the purchase price.

1           15. A method as in claim 14, further comprising  
2 composing a solicitation letter at the primary buyer computer  
3 which contains a request for a contribution toward the  
4 purchase price and sending the letter over the network to the  
5 co-payer computers.

1           16. A method as in claim 12, further comprising  
2 sending over the network a notification to the primary buyer  
3 computer of any proposed contributions.

1           17. A method as in claim 12, further comprising  
2 sending over the network a notification to the primary buyer  
3 computer when the contributions meet or exceed the purchase  
4 price.

1           18. A method as in claim 17, further comprising  
2 confirming the selection from the primary buyer computer after  
3 receiving the notification.

1           19. A method as in claim 18, wherein the proposed  
2 contributions are in the form of a credit purchase using  
3 multiple different payment instruments, and further comprising  
4 sending authorization requests to banks or credit  
5 organizations who have authority to charge the payment  
6 instruments prior to accepting the amount.

1           20. A method as in claim 19, wherein the amount is  
2 accepted by charging the payment instruments only after  
3 authorizations to charge all of the payment instruments have  
4 been received.

1           21. A method as in claim 12, further comprising  
2 delivering the item to a recipient.

1           22. A system for facilitating a purchase  
2 transaction, comprising:

3           at least one network server computer which is  
4 adapted to be coupled to a network to allow the network server  
5 computer to communicate with a primary buyer computer and at  
6 least one co-payer computer;

7           code to present a list of inventory items at the  
8 primary buyer computer to allow the primary buyer computer to  
9 select one of the items to purchase at a given purchase price;

10          code to send a message to the co-payer computer  
11 requesting whether a contribution is to be made toward the  
12 purchase price of the item using a payment instrument;

13          code to determine when one or more proposed  
14 contributions toward the purchase price meets or exceeds the  
15 purchase price; and

16          code to send a command to charge the payment  
17 instrument(s) to pay the purchase price.

1           23. A system as in claim 22, further comprising  
2 code to send over the network a notification to the primary  
3 buyer computer of any proposed contributions.

1           24. A system as in claim 22, further comprising  
2 code to send over the network a notification to the primary  
3 buyer computer when the proposed contributions meet or exceed  
4 the purchase price.

1           25. A system as in claim 24, further comprising  
2 code to send a confirmation of the selection from the primary  
3 buyer computer to the network server computer after receiving  
4 the notification to confirm that the item is to be purchased.

1           26. A system as in claim 25, wherein the network  
2 server computer is also adapted to be coupled to at least one  
3 credit organization, wherein at least one of the proposed  
4 contributions involves a credit transaction, and further  
5 comprising code to contact the credit organization to  
6 authorize the charging of the payment instrument(s).



1           27. A system as in claim 26, wherein the network  
2 server computer receives proposed contributions from multiple  
3 different payment instruments, and further comprising code to  
4 send the command to charge the payment instruments only after  
5 receiving authorization from the credit organization to charge  
6 all of the payment instruments.

1           28. A method for facilitating a purchase  
2 transaction, comprising:

3           at a merchant server computer, collecting multiple  
4 proposed contributions toward a purchase price of an item  
5 using multiple payment instruments;

6           sending from the merchant server computer requests  
7 for authorization to charge the payment instruments;

8           at the merchant server computer, collecting returned  
9 responses to the authorization requests;

10          sending from the merchant server computer commands  
11 to charge all of the payment instruments only if the responses  
12 indicate an authorization to charge all of the payment  
13 instruments.

1           29. A method as in claim 28, wherein the payment  
2 instruments are selected from the group consisting of credit  
3 cards from different credit organizations, debit cards, smart  
4 cards, utility bills, credit accounts, billing services,  
5 electronic funds transfer, bank accounts, brokerage accounts,  
6 and money market funds.

1           30. A method as in claim 28, further comprising  
2 sending the proposed contributions to the merchant server  
3 computer from multiple co-payer computers which are coupled to  
4 the merchant server computer over a network.

1           31. A method as in claim 30, further comprising  
2 sending a list of proposed contributors to the merchant server  
3 computer from a primary buyer computer which is coupled to the  
4 network, and sending requests for proposed contributions to  
5 the co-payer computers over the network.

1           32. A method as in claim 28, further comprising  
2     sending the authorization requests to banks or credit  
3     organizations who have authority to charge the payment  
4     instruments.

1           33. A method for facilitating a purchase  
2     transaction over a network of computers, the method  
3     comprising:

4           receiving a selection of an item that is desired to  
5     be purchased by payment of a purchase price from a primary  
6     buyer computer;

7           collecting at least one proposed contribution toward  
8     the purchase price from at least one co-payer computer; and

9           accepting an amount of the proposed contribution  
10    sufficient to meet the purchase price.

1           34. A method as in claim 33, further comprising  
2     collecting multiple contributions from multiple co-payer  
3     computers, wherein the proposed contributions are in the form  
4     of a credit purchase using multiple different payment  
5     instruments, and further comprising sending authorization  
6     requests to banks or credit organizations who have authority  
7     to charge the payment instruments prior to accepting the  
8     amount.

1           35. A computer readable medium containing a program  
2     for transacting a sale over a network of computers comprising  
3     the steps of:

4           receiving a selection of an item that is desired to  
5     be purchased by payment of a purchase price from a primary  
6     buyer computer;

7           collecting at least one proposed contribution toward  
8     the purchase price from at least one co-payer computer; and

9           accepting an amount of the proposed contribution  
10    sufficient to meet the purchase price.

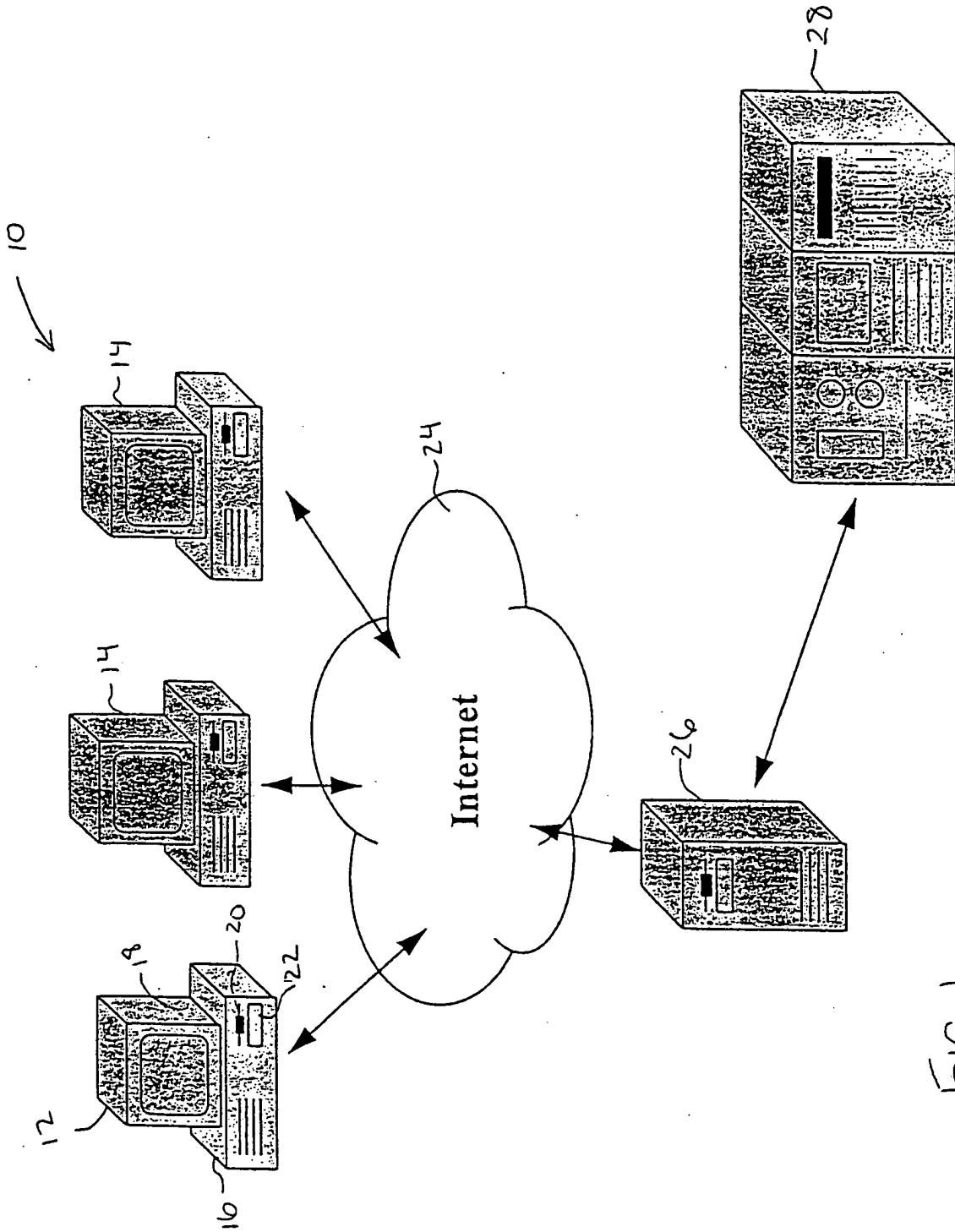


FIG. 1

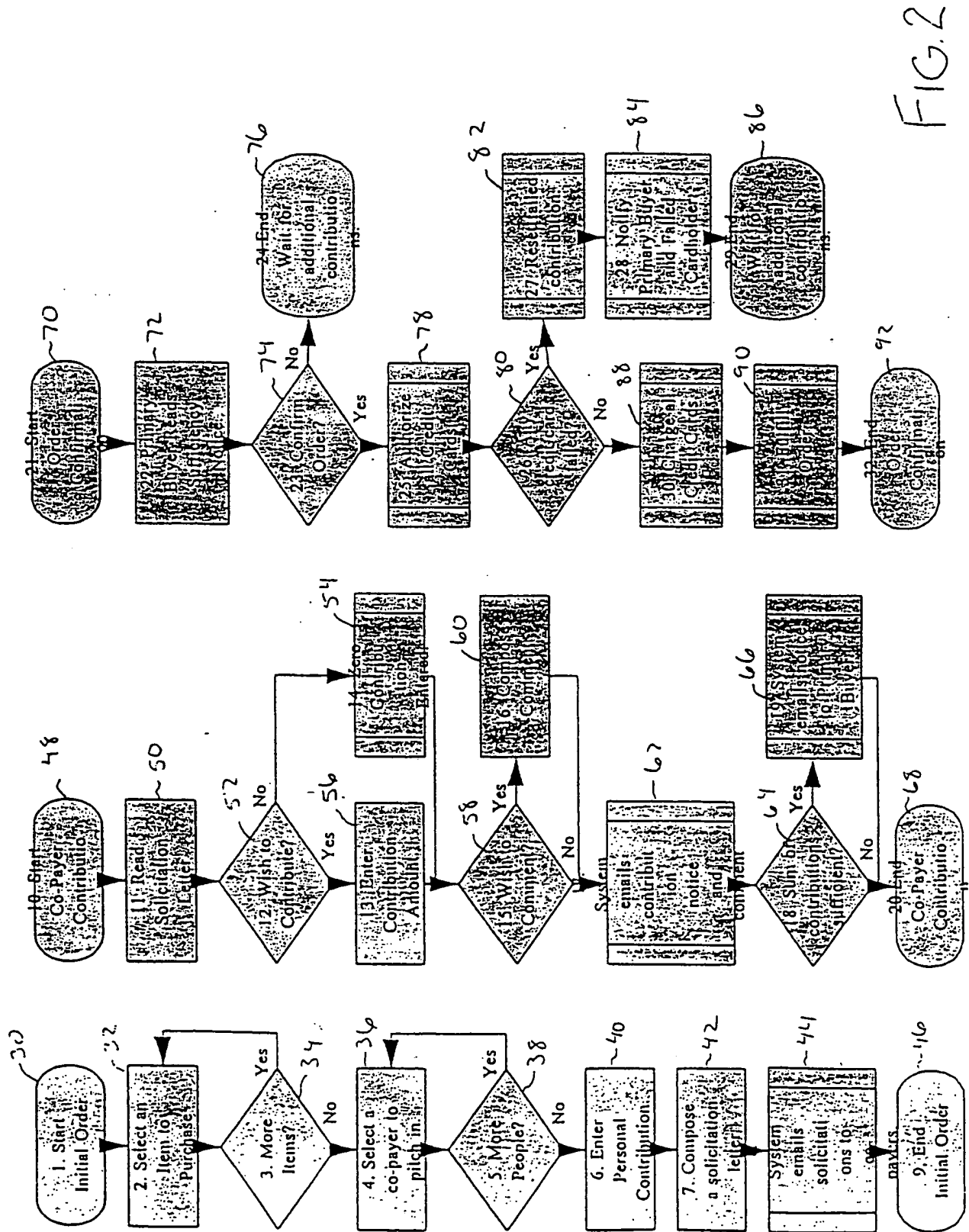
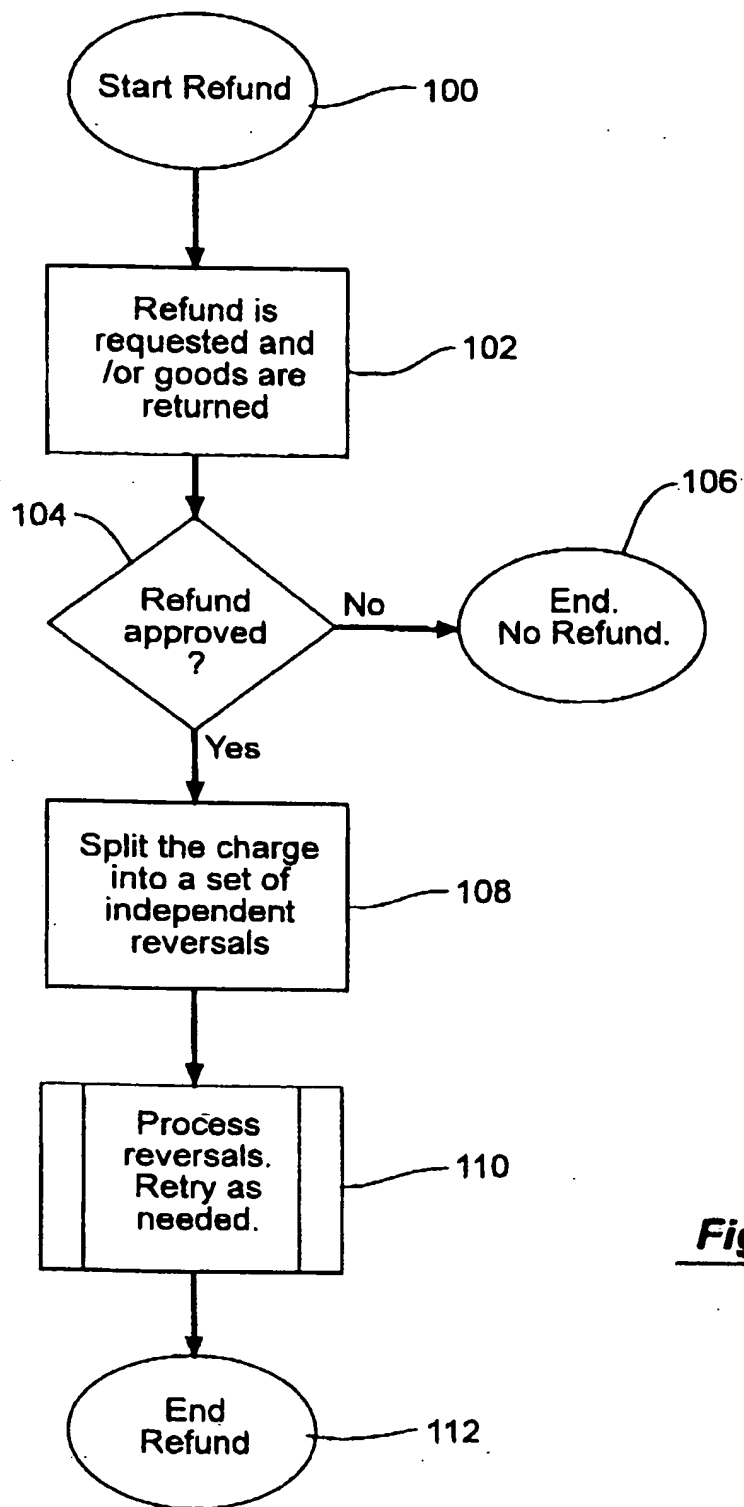


FIG. 2

**Fig. 3**

(19) World Intellectual Property Organization  
International Bureau



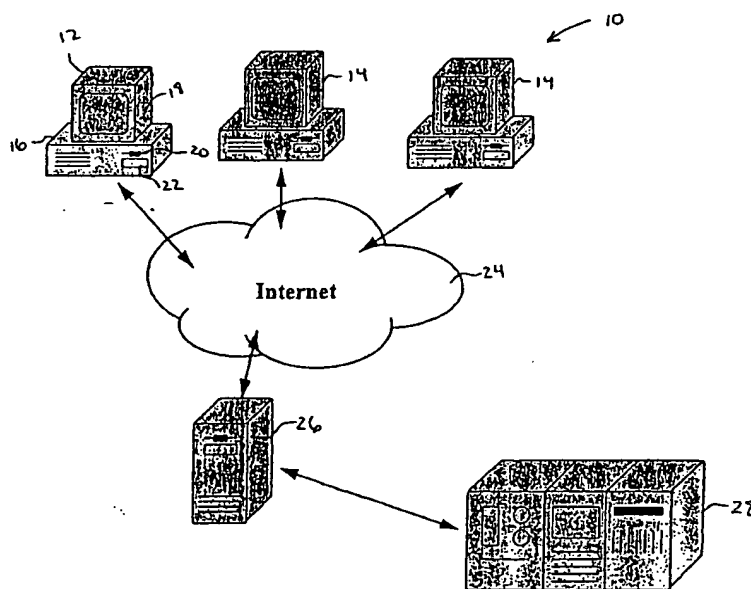
(43) International Publication Date  
14 September 2000 (14.09.2000)

PCT

(10) International Publication Number  
WO 00/54122 A3

- (51) International Patent Classification<sup>7</sup>: G06F 17/60
- (21) International Application Number: PCT/US00/03526
- (22) International Filing Date: 10 February 2000 (10.02.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
09/265,147 9 March 1999 (09.03.1999) US
- (71) Applicant: ANCESTRY.COM, INC. [US/US]; 266 West Center Street, Orem, UT 84057 (US).
- (72) Inventors: TAGGART, Daniel, D.; 10457 N. 6300 W., Highland, UT 84003 (US). ALLEN, Paul, B.; 1791 N. 500 E., Provo, UT 94604 (US). REDD, Brandt, C.; 2125 N. 1450 E., Provo, UT 94604 (US).
- (74) Agents: GIBBY, Darin, J. et al.; Townsend and Townsend and Crew LLP, 8th floor, Two Embarcadero Center, San Francisco, CA 94111 (US).
- (81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— With international search report.
- (88) Date of publication of the international search report:  
5 April 2001
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SYSTEM AND METHODS FOR SHARED ELECTRONIC PURCHASING



(57) Abstract: Systems and methods are provided for facilitating a purchase transaction. According to one method (see Fig. 1), multiple proposed contributions towards a purchase price of an item using multiple payment instruments are collected at a merchant server computer (26). The merchant server computer sends requests for authorization to charge the payment instruments. The merchant server computer collects the returned responses to the authorization requests. The merchant server computer then sends commands to charge all of the payment instruments only if the responses indicate an authorization to charge all of the payment instruments.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US00/03526

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : G06F 17/60

US CL : 705/26

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 705/26

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
Please See Extra Sheet.

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,794,219 A (BROWN) 11 August 1998, Abstract; col. 3, lines 45-67; col. 4, lines 1-22; col. 4, lines 51-61; col. 6, lines 17-51; col. 7, lines 6-59; col. 8, lines 20-59	1-35
Y,P	US 6,023,686 A (BROWN) 08 February 2000, Abstract	1-35
Y	US 5,826,244 A (HUBERMAN) 20 October 1998, Abstract	1-35
Y,E	US 6,101,484 A (HALBERT et al.) 08 August 2000, Abstract	1-35

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
*A* document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
*E* earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
*L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
*O* document referring to an oral disclosure, use, exhibition or other means	
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

30 NOVEMBER 2000

Date of mailing of the international search report

02 JAN 2001

Name and mailing address of the ISA/US  
Commissioner of Patents and Trademarks  
Box PCT  
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

VINCENT MILLER

Telephone No. (703) 305-3900

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/03526

## B. FIELDS SEARCHED

Electronic data bases consulted (Name of data base and where practicable terms used):

DIALOG, STN

search terms: network, Internet, buyer, seller, computer, server, contribution, price, co-payer, inventory, solicit, item or purchase or good, primary buyer, credit, purchase or buy, payment



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☒ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**